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Evaluation of health related fitness profiles of officers and men of Nigeria security civil defense corps (NSCDC)

Procjena zdravstvenih kondicijskih profila časnika i ostalih djelatnika sigurnosne službe civilne zaštite Nigerije (NSCDC)

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Abstract

The physical fitness of officers and men of Nigeria Security and Civil Defense Corps is of great importance to their mobility and health. Available studies have centered on growth, development and role of NSCDC but none have critically examined their physical fitness characteristics as recommended by United Nation military fitness Established Norms (UNMFNs). Therefore this study evaluated resting heart rate (RHR), systolic blood pressure (SBP), diastolic blood max (DBP), flexibility, muscular endurance, body max index and cardio respiratory indices characteristics of officers and men of the NSCDC in Ondo State, Nigeria. The ex-post facto research design was adopted purposive sampling techniques was used to select 54 participant from NSCDC in Ondo State. Data were collected using sphymonameter (r=0.97), Flex box (r=0.90), sit-up (r=0.92) BMI (r=0.69). Two research questions were answered, and ten hypotheses tested. Data were analyzed using paired t-test at 0.05 level of significance. There were significant differences between the RHR (t=6.331, p<05), age (t=7.803, p<05) flexibility (t=-2.109, p<05), BM I (t=3.801, p<05), SBP (t=3.252, p<05) muscular endurance arm (t=-7.653, p<0.5), arm muscular endurance (t=-8.073, p<05), muscular strength (t=-6,322, p<05), VO2 max (t=3.156, p<05) when compared with UNMFNS. There were no significant difference in height (t=0.124, p<05), DBP (t=1.923, p<05) and weight (t=1.052, p<05). Nigerian Security and Civil Defense Corps did not measure up to the UNMFNs PFC in flexibility (Norm 6.5 inches) and muscular endurance (Norm =72bpm). Also the fitness standard was not present at optimal level. Hence, physical fitness training advisory committee should be constituted in the training department of NSCDC to supervise the proper conduct and appraisal of physical fitness training program of the agency.

Keywords: Health related physical fitness characteristics • Nigeria Security and Civil Defense Corps • UMMFN

Running head:

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Introduction

Background of the study

The quest for high magnitude of health and physical fitness level within both the military and paramilitary security officers in a country that faces numerous security challenges like Nigeria cannot be overemphasized. Physical fitness is the human body's ability to move with desired speed, balance, agility and strength attained through adequate exercise and nutrition (Adedugbe, Moses and Abass 2014). Brandon (2009) sees physical fitness as the ability to carry out daily task with vigor and alertness without undue fatigue and with enough energy to enjoy one time pursuit and unforeseen circumstances and emergencies. A state of adequate physical fitness is the ability to handle undue stress and daily occupations without becoming fatigued. The ability of military and para-military organizations to accomplish extreme physical tasks while remaining healthy and uninjured is vital to defense's strength and capacity of a nation. Therefore every nation must strive to keep its defense corps physically fit and prepared.

Hale and Zartman (2001) opined that many of the physical activities which exercise the body have been taken over by technological improvement and advancement whereby people now enjoy most of their leisure time in sedentary activities. The concept of physical fitness can be divided into two major components namely; health related and skill or performance related components. Health related components comprise of cardio-respiratory endurance, muscular strength, muscular endurance, flexibility and body composition, while performance related components include speed, agility, power, balance, reaction time and coordination. For an individual to function at his maximum capacity, all the health related components must be functionally present, irrespective of one's occupation, tribe, gender or

race. Although, an individual's nature of work may require these abilities to be at a higher level than in others. Performance related components, however, are selectively required, depending on the nature or type and intensity of the task one does.

Physical fitness is very important to everybody for good and sound health, fitness means different things to many people, physiologist, psychologist, military and paramilitary agencies, and medical & para-medicals practitioners. The medical practitioners see physical fitness in the direction of optimal health and well-being, while the paramilitary organizations captures it as having good height and body composition, ability to carry out military parades and drills and other legitimate obligation without experiencing undue fatigue (Adedugbe, Moses and Abass 2014). It is very pertinent to note that before an individual or a group of individuals can be enlisted into military and paramilitary establishment, he must possess some certain level of militarily acclaimed fitness and body composition.

Flexibility is a health-related component of physical fitness that relates to the range of motion available at a join. Flexibility is the degree to which a joint moves through a normal, pain-free a range of motion. Improper body mechanics have been attributed to poor flexibility. Some of the flexibility tests are Sit and Reach test (most prevalent), Total Body Rotation Test, Shoulder Rotation Test. (ACSM 2010). Body composition refers to the proportion of fat and fat-free mass (muscle, bone, and water) in the body. Healthy body composition involves a high proportion of fat-free mass and an acceptably low level of body fat, adjusted for age and gender. A person with excessive body fat, especially excess fat in the abdomen, is more likely to experience health problems, including heart disease, insulin resistance, high blood pressure, stroke, joint problems, type 2 diabetes, gallbladder disease, blood vessel inflammation, some types of cancer, and back pain. The best way to lose fat is through a lifestyle that includes a sensible diet and exercise. A small increase in physical activity and a small decrease in body fat can lead to substantial health improvements.

Muscular strength is the ability of a muscle or muscle group to generate maximal force, whereas muscular endurance describes the muscle's ability to exert successive sub-maximal force for a certain period of time. Strength and endurance are specific to the muscle group, speed of the contraction, type of contraction, and joint angle being tested (Heyward, 1991). These components are very important in attaining high achievement in sports and games, and also combat, protection and social security as displayed by men of Nigeria Security and Civil Defense Corps (NSCDC). These health related components are very important in relation to their physiological needs in our body. For one to excel in skill related variables, the person must attain reasonable level in health related physical fitness components.

Nigeria Security and Civil Defense Corps are statutorily empowered by law Act No. 2 of 2003 and amended by Act 6 of 4th June 2007. This 2007 amended Nigeria Security and Civil Defense Corps Act empowers the corps to "maintain twenty four hours surveillance of infrastructures, sites and projects for the Federal, State and local Government"(section 3 (i) e (ii) and (iii) of Nigeria Security and Civil Defense Corps amended Act 2007). The Corps are expected to assist in the maintenance of peace and order and in the protection, rescuing the civil population during the period of emergency, they answer to the minister, registrate private guard companies, from time to time, inspect the premises of private guard companies, their training facilities and approve same if they are up to standards. They also supervise and monitor the activities of all private guard companies and keep a register for that purpose, periodically organize workshops and training courses for private guard companies and seal up any private guard company which operates without a valid license; maintain twenty four hour surveillance over infrastructures; site and project for the Federal, State and Local Government (Abolurin, 2008). Adedugbe, Moses and Abass(2014), opined that the success and general efficiency of every military and Para-military establishment, to a large extent, depend upon the physical fitness, endurance and condition of the individual unit or command in which it is composed.

Today, with the threat of terrorist attacks, infrastructural vandalism, militancy and lots of security problems facing Nigeria, the NSCDC stands as one of our first line of defense against civil unrest. The NSCDC officers had performed thousands of life saving and territorial protective missions every year since its inception. To perform these dangerous missions, the men and women of the NSCDC need to maintain a higher level of fitness compared to the average men in the society. Physical fitness requirements in the NSCDC are directly linked to "on the job" requirements. NSCDC being a young security agency have not really kept records of physiological profiles of her officers, it is on this ground there searcher wants to evaluate the health-related fitness profiles and compare them with established norms.

Statement of the problem

The significance of security to mankind cannot be over emphasized, as the socio-economic structure of any society or organization depends on the security system available in such society or organization (Omotoso, 2012). The health-related fitness profiles of men of the NSCDC are of necessity to their wellness and health. Many studies have centered on the growth and development, infrastructural needs, psychological alertness, but not many of these studies worked on physiological profiles and health related physical fitness of members of the organization. The few studies done on physical fitness and health focused on physiological profiles of officers and men of the Nigeria armed forces and targeted the traditional military institutions like Army, Navy and Air force (Abass and Adedugbe 2011), while little or nothing has been done on the NSCDC.

Every paramilitary establishment to a reasonable extent depend upon physical fitness ability and performance of the officers and men, which goes a long way in helping them to carry out their duties. Documented records of fitness capacity and regular assessment of current levels of fitness will go a long way in evaluating fitness ability of the military and paramilitary organizations. Available records from the Specialist hospital Akure collected in 2014 also

show that there is an increase in the occurrence of chronic diseases (e.g. coronary heart disease (CDH), obesity, hypertension, diabetes, overweight etc.) among paramilitary personnel in Ondo State. This is worrisome, because if the group that is expected to defend the nation is getting increasingly unhealthy, the whole citizenry may be in danger. It is on this ground the researcher wants to evaluate health-related fitness profile of officers and men of NSCDC in Ondo State.

Research hypotheses

The following research hypotheses were tested;

1. There will be no significant difference between the age of officers and men of NSCDC in Ondo state and established norms.
2. There will be no significant difference between the weight officers and men of NSCDC in Ondo state and established norms.
3. There will be no significant difference between the height of officers and men of NSCDC in Ondo state and established norms.
4. There will be no significant difference between the physiological variables (heart rate, systolic blood pressure and diastolic blood pressure) of officers and men of NSCDC in Ondo state and established norms
5. There will be no significant difference between flexibility of officers and men of NSCDC in Ondo state Nigeria and established norms
6. There will be no significant difference between cardiorespiratory fitness of officers and men of NSCDC in Ondo state Nigeria and established norms
7. There will be no significant difference between body mass index of officers and men of NSCDC in Ondo state Nigeria and established norms
8. There will be no significant difference between arm muscle strength of officers and men of NSCDC in Ondo state Nigeria and established norms
9. There will be no significant difference between abdominal muscle endurance of officers and men of NSCDC in Ondo state Nigeria and established norms
10. There will be no significant difference between leg muscle strength of officers and men of NSCDC in Ondo state Nigeria and established norms

Methodology

Ex-post facto research design was adopted for the study. This method is appropriate as it involves the collection of data for the purpose of describing and interpreting the existing situation under study. The target population for this study were NSCDC officers and men in Ondo State. Ondo State is one of the States in southwestern part of Nigeria. The sample for this study were sixty-six participants, both male and female officers and soldiers of NSCDC in Ondo State. Purposive random sampling techniques were adopted to evaluate 33 male and 33 female officers and soldiers of NSCDC who may volunteer for the study.The descriptive statistics of percentage, frequency, range, mean and standard deviation were used to summarize the data, inferential statistics of single sample t-test was used to test the hypotheses and answer research questions. Alpha level was set at 0.05 level of significance.

Test Procedures

1. Recruitment was made from NSCDC officers in Akure, ethical approval was sorted Ethic and research committee of the agency that was involved in this study.
2. All measurements were taken at NSCDC parade ground at Alfred Rewane Road, opposite of Government House, Alagbaka, GRA, Akure and Alagbaka Comprehensive High School's playing ground.
3. The purpose of the study was explained to those who consented to participate after which informed consent papers were given to them and the completed ones were collected.
4. **Age** - the participants' age was recorded backwards slight of the years nearest to their birthdays.
5. **Height** - the height of the participants was measured. Participants will stand before the barefooted with the back touching the measuring bar. Their height was recorded to the nearest centimeter.
6. **Weigh**t -The participants' body weight was measured using the bathroom weighing scale.
7. **Resting Heart Rate** - Resting heart rate value was obtained using military 3M Littmann Stethoscope (M3128) produced by 3M Health Care, U.S.A and Sportline 220 model stopwatch produced by Sport central, Inc. The stethoscope ear piece was placed in the ears so that the angle of the ear piece tube pointed forward. The diaphragm of the stethoscope was placed on left side of the participant's chest, over the apex of the heart. The number of beats in fifteen seconds was counted and multiplied by four to get the heart rate (per minute).
8. **Blood pressure measurement** – the stethoscope and the sphygmomanometer were used to measure blood pressure profiles. The participants would sit comfortably on a stool and support the arm on a table such that laid mid-chest level. The cuff of the sphygmomanometer was wrapped firmly around the arm at 2 cm above the cubital fossa. The radial pulse is palpated up to 180 mmHg above the arterial pressure, at which the radial force will disappear. The cuff pressure will gradually deflate at a rate of 2 mmHg per seconds. The pressure at which the first "korokof-sound" is heard was recorded as the systolic blood pressure, while diastolic blood pressure is the last sound heard. The blood pressure is recorded in mm Hg (millimeter of mercury).
9. **Flexibility Tests**-Sit-and-Reach-Flexibility Test box (Flex box) was used for measuring trunk flexibility of participants. Participants will assume a sitting position with the feet put at a shoulder width, apart and against the Flex box calibrated in centimeters, the participants then, in that position, leaned the trunk forward with both put together, head in between both hands in a way that fingers are placed together properly on the box leading with both middle finger in the leaning and pushing of the measuring gauge on the Flex box as far as possible without jerking. The movement of the gauge will determine the extent to which the hands could

reach by the fingers. The marked point reached by the participants was recorded to the nearest centimeters.

10. **Muscular Endurance Tests (Sit-up Test) - Purpose:** To test the abdominal musculature's endurance. **Procedure -** This test measures muscular endurance of the abdominal muscles. The test involves the performance of as many bent leg sit-ups as participants can properly complete. Hands must be behind the head with fingers interlaced. Elbows must touch the knees in the up position and the back must touch the floor in the down position**.**
11. **Push up test**– **Purpose:** Test the pectoral girdle and triceps musculature's endurance. **Tools** - Stop watch or metronome. **Procedure** – participants will have their feet on the floor. Both will have hands shoulder width apart in line with the shoulders, hands flat on floor, and back straight. The push-up start position is full extension. The end phase is 3 to 5 inches from floor. Use a metronome set at 60 beats per minute. Two beats are for the lowering and hold phase, the next beat is for full return or perform each complete repetition over 3 seconds. Have participants perform as many push-ups as possible with good form. When the muscles other than the intended are being used to perform the motion or, when the back does not remain straight, terminate the test.
12. **Maximum Oxygen Consumption (maxV02) -** A 400-meter track was used for the 1.5 mile run to obtain maximum oxygen consumption (max V02). The participants will complete the course in the shortest time. Although walking was authorized, it was strongly discouraged. If the participants received help in any way (by being pulled, pushed, picked up, and/or carried) or leaved the designated running course for any reason, they were disqualified. The time was recorded when each participants crossed the finishing line on the final lap to the nearest second which was substituted into the regression equation that is max Vo2 (ml /kg/min) = 108.94 – (8.41 x T) + (0.34 x T2) + 0.21 x Age x G) – (0.84xBMI).Where, T = time in minutes for 1.5 miles run-walk test, BMI = Body Mass Index (W/H2) and G =Gender – coded; female =0; male 1.
14. **Body Mass Index (BMI) -** It is a measure of body composition. BMI is calculated by taking a person's weight and dividing by their height squared. **Equipment required:** scales and standiometer as for weight and height. **Procedure:** BMI is calculated from body mass (M) and height (H). BMI = M / (H x H), where M = body mass in kilograms and H = height in meters. The higher score usually indicates higher levels of body fat.

Results

Table 1 revealed even distribution according to gender with high percentage of male as 51.9%, while female was 48.1%. This implies that male have higher percentage.

Table 2 revealed the distribution according to age range of respondents. The result shows that respondents with age 31-40 years made 50.0%, while age range 41-50 years was 22.2%, and 14.8% younger than 30, while age range of 51 years and above made 13.0%. This shows that respondents with age range between 31 to 40 years have the highest percentage.

Table 1. Distribution according to gender

Gender	Frequency	Percentage
Male	28	51.9
Female	26	48.1
Total	54	100.0%

Table 2. Distribution of age range of respondents

Age group	Frequency	Percentage
Less than 30 yrs	8	14.8
31 to 40 yrs	27	50.0
41 to 50 yrs	12	22.2
51 yrs and more	7	13.0
Total	54	100.0%

4.2 RESEARCH HYPOTHESES

Hypothesis1:

There will be no significant difference between the age of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 3 shows that there is a significant difference between the age of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t- Calculated value was greater than t-Critical values (t-Cal= 7.803 > t-Crit. = 2.021, (P<0.05). That it's there was significant difference. Null hypothesis was rejected and alternate hypothesis accepted. Therefore it was concluded that, there is a significant difference between the age of officers and men of NSCDC in Ondo State and established Norms.

Hypothesis 2

There will be no significant difference between the weight of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 3 shows that there is no significant difference between the weight of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t- Calculated value was lesser than t-Critical values (t-Cal= 1.052 < t-Crit. = 2.01), (P>0.05). That it's there was a no significant difference. Null hypothesis was accepted and alternate hypothesis rejected. Therefore it was concluded that there is a no significant difference between the weight of officers and men of NSCDC in Ondo State and established Norms.

Hypothesis 3

There will be no significant difference between the height of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 3 shows that there is no significant difference between the height of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t- Calculated value was lesser than t-Critical values (t-Cal= .124< t-Crit. = 2.021), (P>0.05); there was no significant difference. Null hypothesis was accepted and alternate hypothesis rejected. Therefore it was concluded that there is a no significant difference between the height of officers and men of NSCDC in Ondo State and established Norms.

Hypothesis 4

There will be no significant difference between the body mass of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 3 shows that there is a significant difference between the body mass of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t-Calculated value was greater than t-Critical values (t-Cal=3.801 > t-Crit. = 2.021), (P<0.05) and there was significant difference. Null hypothesis was rejected and alternate hypothesis accepted. Therefore it was concluded that there is a significant difference between the body mass of officers and men of NSCDC in Ondo State and established Norms.

Hypothesis 5a

There will be no significant difference between the heart rate (bpm) of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 4.2 shows that there is a significant difference between the heart rate (bpm) of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t- calculated value was greater than t-Critical values (t-Cal=6.331 > t-Crit. = 2.021, (P<0.05) and that there was significant difference. Null hypothesis was rejected and alternate hypothesis accepted. Therefore it was concluded that there is a significant difference between the heart rate (bpm) of officers and men of NSCDC in Ondo State and established Norms.

Table 3 showing the basic physiological health status (heart rate, systolic blood pressure and diastolic blood pressures) of officers and men of NSCDC in Ondo State and established norms

Variables	Pair-Test	N	Mean	Std. Dev	t. Cal	t. Crit.	df.	Sig. (2 tail)	Remark
Age	Age	54	38.94	8.423	7.803	2.021	53	0.000	Sig
	NORMs	54							
Diastolicblood Pressure	DBP	54	84.37	16.701	1.923	2.021	53	0.060	Not Sig
	NORMs	54							
Height	Height	54	1.7	.560	0.124	2.021	53	0.902	Not Sig
	NORMs	54							
Weight	Weight	54	74.35	16.422	1.052	2.021	53	0.297	Not Sig
	NORMs	54							
Body Max Index	BMI	54	27.89	5.594	3.801	2.021	53	0.000	Sig
	NORMs	54							
Heart rate	Heart	54	80.10	9.406	6.331	2.021	53	0.002	Sig
	NORMs	54							
SystolicBlood Pressure	SBP	54	126.	15.732	3.252	2.021	53	0.040	Sig
	NORMs	54							
Flexibility	Flexibility	54	5.60	3.123	-2.109	2.021	53	0.000	Sig
	NORMs	54							
Muscular endurance (abdominal)	MEA	54	13.92	9.673	-7.653	2.021	53	0.000	Sig
	NORMs	54							
Arm endurance (push up)	AES	54	17.64	9.423	-8.073	2.021	53	0.000	Sig
	NORMs	54							
Muscularstrength (arm)	MSA	54	13.11	5.682	-6.322	2.021	53	0.000	Sig
	NORMs	54							
Vo2 MAX	Vo2	54	103.07	14.141	3.156	2.021	53	0.003	sig
	NORMs	54							

Hypothesis 5b

There will be no significant difference between the diastolic blood pressures of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 4.2 shows that there is no significant difference between the diastolic blood pressures of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t- calculated value was lesser than t-Critical values (t-Cal= 1.923 > t-Crit. = 2.021), (P>0.05) and that there was a significant difference. Null hypothesis was accepted and alternate hypothesis rejected. Therefore it was concluded that there is no significant difference between the diastolic blood pressures of officers and men of NSCDC in Ondo State and established Norms.

Hypothesis 5c.

There will be no significant difference between the systolic blood pressure (mmHg) of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 3 shows that there is a significant difference between the systolic blood pressure (mmHg) of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t- Calculated value was lesser than t-Critical values (t-Cal=3.252> t-Crit. = 2.021), (P<0.05), that there was no significant difference. Null hypothesis was rejected and alternate hypothesis accepted. Therefore it was concluded that there is a significant difference between the systolic blood pressure (mmHg) of officers and men of NSCDC in Ondo State and established Norms.

Hypothesis 6

There will be no significant difference between the flexibility of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 4.2 shows that there is significant difference between the flexibility of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t-Calculated value was greater than t-Critical values (t-Cal=-2.109 > t-Crit. = 2.021), (P<0.05), that ithere was a significant difference. Null hypothesis was rejected and alternate hypothesis accepted. Therefore it was concluded that there is a significant difference in the flexibility of officers and men of NSCDC in Ondo State and established Norms.

Hypothesis 7

There will be no significant difference between the Muscular endurance (abdominal) of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 4.2 shows that there is significant difference between the Muscular endurance (abdominal) of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t- Calculated value was greater than t-Critical values (t-Cal=-7.653 > t-Crit. = 2.021), (P<0.05). That it's there was a significant difference. Null hypothesis was rejected and accepted alternate hypothesis. Therefore it was concluded that, there is a significant difference between the Muscular endurance (abdominal) of officers and men of NSCDC in Ondo State and established Norms.

Hypothesis 8

There will be no significant difference between the Arm Endurance (push up) of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 4.2 shows that there is significant difference between the Arm Endurance (push up) of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t- Calculated value was greater than t-Critical values (t-Cal=-7.779 > t-Crit. = 2.021), (P<0.05), that there was a significant difference. Null hypothesis was rejected and alternate hypothesis accepted. Therefore it was concluded that, there is a significant difference between the Arm Endurance (push up) of officers and men of NSCDC in Ondo State and established Norms.

Hypothesis 9

There will be no significant difference between the Muscular strength (Arm strength) of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 4.2 shows that there is significant difference between the Muscular strength (Arm strength) of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t-Calculated value was greater than t-Critical values (t-Cal=-6.322 > t-Crit. = 2.021), (P<0.05). That it's there was a significant difference. Null hypothesis was rejected and accepted alternate hypothesis. Therefore it was concluded that there is significant difference between the Muscular strength (Arm strength) of officers and men of NSCDC in Ondo State and established Norms

Hypothesis 10

There will be no significant difference between the VO2 MAX of officers and men of NSCDC in Ondo State and established Norms.

Results

The table 4.2 shows that there is significant difference the VO2 MAX of officers and men of NSCDC in Ondo State and established Norms. It was observed that the t- Calculated value was greater than t-Critical values (t-Cal=3.156 > t-Crit. = 2.021), (P<0.05), that there was a significant difference. Null hypothesis was rejected and alternate hypothesis accepted. Therefore it was concluded that there is a significant difference between the VO2 MAX of officers and men of NSCDC in Ondo State and established Norms.

Discussion of Findings

This study was developed to evaluate health related physical fitness profiles of officers and men of Nigeria Security and Civil Defense Corps in Ondo State. This section discusses the results obtained from the study in order to expatiate on the outcome of these on Nigerian security. This study revealed that Nigeria Security and Civil Defense Corps averaged 38.26 8.423 years in age, which means youthful age capable of facing the herculean task of securing absolute security of lives and property for the nation. Although this group was older than the Nigerian Arm forces as reported by Adedugba and Abass, (2014) 38.26 8.423 >29.75 6.33 years and also older than the report by Aniodo (2003) on Nigerian police who had 38.26 8.423 > 21.2 1.18 years. Participant's age still falls within the age range of 18 to 53 years in a study using Army physical fitness Test (APFT) that was a standardized measurement of physical fitness administrated to all Army in Active duty, National Guard, and Reserve personnel, but has age that was less that their mean age of 30 years (Talbot, Weinstern and Fleg, 2001).

The implication of this age is that the participants in this study were more mature than the Nigerian Armed forces in decision making and admitting responsibilities. On height Nigerian security and civil defense corps averaged 1.7 0.09m reported by Adedigba and Abass (2014), this result shows that NSCDC attached paramount importance to height as requirement for enlistment into service. The participants in this study had average weight that was more than that of Nigerian Armed forces (74.35 16.422kg) as reported by Adedugbe and Abass (2014), this finding might be as a result of drills that increases their of muscle mass overtime.

The higher heart rate recorded by NSCDC is Ondo State and established norms could be attributed to inadequate training and level of fitness of officers and men of NSCDC. Then, there was a significant difference observed in the systolic blood pressure of NSCDC and the norm by Shankey (2002) may be as a result of their average age that was over 30years which is in line with the submission of McGynn (1999) that people under 30 years of age probably shown significant different when exposed to the same (training) Aniodo do (2003) reported that inactivity increases SBP and Heart rate, in line with this findings from Arakawa, (1999): WHO, (1999) and under Long et al, (2002) that exercise training lowers blood pressure, resting heart rate and recovery heart respectively.

The aforementioned ideas agreed with Aniodo's (2003) submission that individual may not usually have high DBP, if their fitness level is average and SBP is normal. The result also shows that there were significant differences in the flexibility between the NSCDC and established norm of 6.5 inches or 16.5cm. The stated Null Hypothesis was therefore rejected. The result on flexibility performance of participants in this study agreed with Getchel (1993) submission that ageing decline flexibility due to the fact that ageing collagen losses some of us elastic which make tendons and their junctions with bones and muscles become less flexible.

The NSCDC with reference to mean did not meet up above 30-39 years that was regarded as of the performance (www.stewsmith.com/linmpages/pftstandards.htm). Of 26.8<35.1 for Sit-up, that is, the muscular endurance (abdominal), The participants out weight the PFT requirement for push up 26.21>24.0 for muscular strength and endurance. This finding was lower than the report of Adedugba and Abass (2014) 3.2.42ep/min.Tthis may partially agree with the submission of Foss and Keteyan (1995) that during maximal exercises, maximal oxygen uptake for endurance of matured person is reduced. Base on this findings of the study, the participants have higher max vo2 performance that may be ascribed to the intensity of their training which support the opinion of chad (2001) that training constituently for two or three participation in several interval training can increase more Vo2 as much as 40%.

Another study reports that, when training is extended for years, the continued increase in Max Vo2 can be due to factors such genetic gift (Bouchard, Dioone, Simoneau and Boulay, 1992). The NSCDC personnel that participated in this study based on the National institute of Health (1998) Clinical guidelines on the identification, evaluation and treatment of overweight and obesity's had overweight BMI, which fall within 25.5-29.9kg/m^2. No wonder there were significant difference. This also indicates that the participants do involve in a moderate intensity level of physical activity, probably as much as 6.7-8.2 METS, leading to above normal in the diastolic and systolic blood pressure (Sakata and Labarthe 1996). It should be noted, however, that BMI is not the best indicator of obesity related health risk, as BMI is partly attributed to muscle mass (Janssen, Katzmarzk and Ross, 2004).

The findings from this study on heart rate disagreed with Calfrasana Taylor (1994), who found no significant difference in the heart rate of men of the Nigerian Army after 12 weeks of training. On the other hand, this study agreed with the finding of Adedugbe and Abass (2014) on the cardio-respiratory indexes of Nigeria Armed forces in Nigeria.

Also the findings from this study show that officers and men of NSCDC do not adequately participate in regular stretching exercise that should have improved their flexibility. This agrees with the submission of ACSM, (2014) that thirty minutes of static stretching exercises performed twice per week will improve flexibility within five weeks.

The physical fitness test can be a useful tool to increase the awareness of individuals about their fitness level, which was the case in the present group NSCDC personnel. Cardiovascular fitness is not only important outcome of physical activity, as resistance exercise has also become increasingly recognized for its ability to promote health and prevent disease. Therefore endurance and resistance training both contributed to the prevention of many diseases as well as obesity by increasing muscle quantity and insulin action and by reducing visceral adipose tissue (Park, Kwon, Kin, Yoon and Park, 2003).

Conclusions

Based on the findings of this, the following conclusions were drawn;

1. There were no significance differences in the weight, height and DBP of officers and men of Nigeria Security

and Civil Defense Corps when compared with established norms.

2. There were significance differences in the flexibility, muscular strength, SBP, RHR, VO2 Max and BMI of officers and men of Nigeria Security and Civil Defense Corps when compared with established norms
3. The BMI of officers and men of Nigeria Security and Civil Defense Corps when compared with established norms showed they were overweight
4. The results also showed that the participants do not participate enough in flexibility exercises
5. They do not have adequate resistance training, and this also showed in the result of their BMI and SBP.

Recommendations

The findings of this study gave rise to the following recomendations;

1. A physical fitness training Adversary Committee should be constituted within the Nigeria Security and Civil Defense Corps or other paramilitary agencies in collaboration with the PT corps by the government to supervise the proper conduct and evaluation of physical training/ fitness program within the agency.
2. Nigeria Security and Civil Defense Corps should revisit their fitness programs in the training department
3. There is urgent need to recruit exercise physiologist or sports scientist in order to have scientific application and interpretation of their training/fitness program.
4. Health and fitness awareness in form of workshops, seminars and conference anchored by Exercise physiologist and Medical PT should be regular educational features of Nigeria Security and Civil Defense Corps so as to keep them on the importance of maintaining high level of physical fitness at all times.
5. There is also need for Nigeria Security and Civil Defense Corps to develop fitness evaluation program that will be age and gender based.

Authors declare no conflict of interest

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